

Name: _____
Blk: _____ Date: _____

Chemistry 12
REACTION KINETICS
Lesson # 11-13 CATALYTIC ACTION

CATALYST-

A chemical reaction that involves a catalyst will have a TWO STEP reaction mechanism, as illustrated below:

NOTE: If the forward rate DOUBLES, the reverse reaction rate DOUBLES TOO!!!

Comparing the Potential Energy Diagram vs. Kinetic Energy Distribution Curve:

Uncatalyzed vs Catalyzed reaction mechanisms for $\text{OCl}^- + \text{I}^- \rightarrow \text{O}^- + \text{Cl}^-$
UNCATALYZED REACTION:

CATALYZED REACTION:

Step 1.

Step 2.

Step 3.

Overall:

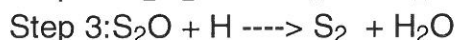
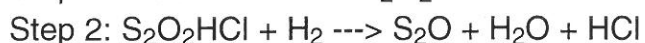
NOTE:

1. A Catalyst is an ACTIVE PARTICIPANT in a chemical reaction in that it is first _____ then _____ in a later step in the Reaction Mechanism
2. The _____ is THE UNCHANGED for the catalyzed and uncatalyzed reactions.
3. Like a REACTION INTERMEDIATE a _____ appears in the elementary processes but not in the _____!!!! However, it is first used and then it is regenerated.

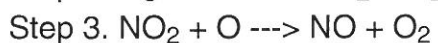
Example 1.

For the following reaction mechanisms identify the REACTION INTERMEDIATES, CATALYSTS and the OVERALL BALANCED CHEMICAL REACTION.

a.



b.



Seatwork/Homework: Read pgs 34-36 then do Exercises 56-63

PLO's : C3, C4, C5 + C6

ALL PLO's are due NEXT CLASS!!!!